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1.

2. Of course, military and political factors strongly influenced the central planning in Moscow of the routes of governmental motor roads and railways. However, it is my feeling that the routes of most railways may be said to have been primarily decided for economic reasons. It must be recalled, on the other hand, that industrial factory development was primarily keyed to supporting the military potential of the USSR and that the production of weapons came before that of food and clothing. Of course, there were a few railways that were built purely for military reasons, particularly in the western border areas of the USSR.

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3. It was my impression that there were almost no railways built in Central Asia under the Soviets only for military purposes. For example, the single-track, broad-gauge railway from Tashkent to Chirchikstroi had no strategic or tactical use. It was built because of the electric power station and dam at Chirchikstroi. An exception to this was one railway begun in 1939 and intended only for military use,

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ie, it would have tactical value in aiding the development of the Turkmen "platz d'armes". This railway was from Tedzhen to Serakhs. A dirt motor road was first built on the route and then, I believe, a single-track, broad-gauge railway line was laid on it which was completed in 1940. The Soviet Ministry of Defense built this line utilizing old railway equipment. In addition, another military railway had existed from Czarist times running from Merv to Kushka; also the Kagan-Kerki-Termez line. All this was single-track and broad-gauge. The line to Termez was extended to Stalinabad, but the extension was for economic and political reasons.

4. Going back to the Tashkent-Chirchikstroi railway, there was an "azot" /nitrogen/ plant in Chirchikstroi which was designed to manufacture nitrogen from air and to use it in fertilizer. This plant required electric power. Tashkent had sufficient electric power before the building of Chirchikstroi. The "azot" was intended to be used for TNT in wartime. The plant was built and operated at partial capacity in 1940. It was later intended to be used at full capacity. Therefore, the decision for the Tashkent-Chirchikstroi railway route was reached because of the electric power and industrial installations near Chirchikstroi. There were no special problems in building the railway as it was a level route.

5. The Ministry of Transportation Routes (Ministerstvo Putei Saabshenii) and the Ministry of Defense (Ministerstvo Oboroni) planned the routes. The Defense Ministry was represented by the Chief of Military Transportation (Nachalnik Voennikh Saabshenii) who was in charge of all military activities and offices on all railways. For motor roads, the following organizations and individuals cooperated: Central Administration of Road Transportation (TSUDORTRANS - Tsentralnaya Dorozhno Transportnoye Upravleniye); the "Nachalnik Voennikh Saabshenii"; and the Military Construction Board (VSU - Voennoye Straitelnoye Upravleniye) of the military district.

6. The authority in charge of building the railway from Tashkent to Chirchikstroi (which was either 32 or 37 kms in length) was the Central Asiatic Railway Construction Administration (SREDAZZHELDORSTROI - Sredni-Aziatski Zheleznodorozhnoye Straitelnoye Upravleniye). Such an organization existed on every railway if construction was in progress. This administration used the military labor battalion of 600 men. The heaviest railway rails were not used on this line. Rails were numbered one through four, number one being the heaviest. Number one weighed 92 or 95 kgs per meter and was 10 meters in length. As I recall, the Tashkent-Chirchikstroi line used rails not heavier than number three, since great speed was not expected and heavy locomotives were not used on that line. As indicated earlier, the line ends at Chirchikstroi. Chirchik was a small railway station two kilometers northeast of the main Tashkent station.

7. In the construction of a main railway line, 1400 ties were used per kilometer, ie, 14 ties for each 10meter rail. On the type of lines such as Tashkent-Chirchikstroi, approximately 1100 or 1200 ties per kilometer were used. Number three rail was about seven to eight meters long.

8. In Central Asia [redacted] there were no fully automatic railway signals (elektrichiski avtomatichiskiya signalizataya). An older type of system was used called "zhezlovaya systema". "Zhezel" is a baton or stick. The system utilized signal boxes which contained several sticks. The latter were removed and replaced by train engineers as the trains travelled between stations.

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9. The Moscow-Taskent railway was built in 1907 as I recall--especially the section from Orenburg (now Chkalov) to Tashkent. This was a one-track, broad-gauge line designed to permit 12 trains to travel each way each 24 hours. Later this became inadequate. Therefore, in 1934 posts were erected for modern signals along 75% of

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the route. However, even by 1942 no new signals had been installed and the posts were empty. Nevertheless, the number of trains had been increased to 30 or 32. This was done by constructing small railway stations at least every 10 kms. Previously the stations had been only every 25 or 30 kms. This was done as only one train can travel between stations. A freight train could cover a station-to-station distance under the new set up in not over 12 or 13 minutes. The railway authorities also tried to equalize the speed of all trains and as a result passenger trains ran slower and freight trains ran faster. There was no double-track railway in all of Central Asia, except for the 36 km section from Tashkent south to Kaufmanskaya [sic] station. This was done so that the railway could load and unload troops and military supplies more quickly in event of war. There were no signals between the railway stations.

10. The main railway bridges constructed in Czarist times were strong enough to accommodate the heavier locomotives, but not at high speeds. The tracks also could not handle high speed trains. The Soviets did introduce heavier rails (number one) but did not much increase the speed. The ballast used on Central Asian railways was of coarse sand, and also could not handle high speeds. The average speed of trains in the USSR was 42 kms per hour. The distance between sidings was uniform, but I do not recall the actual distance. The sidings were long--120 axles, ie could accommodate 60 normal cars. The maximum grade was eight meters in one kilometer, ie, 8/1000. I do not recall the minimum curvature, but I do know there were many exceptions to the rule in mountainous terrain. I think that the minimum curvature was not less than 400 or 500 meters of radius of curve (of course, such vehicles as streetcars would have a much smaller radius).

11. Coal was available only at the "depot station" (depo skii stantii), ie where there was a "turn-around" depot (oborotnoye depot). The latter were from 160 to 200 kms apart. This section formed a "division" (?) (oborotni uchastok--turnaround section). Locomotives were assigned to these "divisions" and never left their territory. In the middle of these "divisions" there were one or two stations with water available for locomotives. Of course, each station had water, but the locomotives stopped at only one, or two, or three such stations, and the stop was eight minutes each time. However, from 1936 onward there were some new locomotives which could travel for 200 kms without taking water. These were designated as the "SO" (Sergo Ordzhonikidze). These were "condensation locomotives" (paravozi condensatori). Repair facilities were available at each "oborotnoye depot", where current and ...um work was done (tsekuchi remont i sredni). These installations could work o... or 14 locomotives at once. However, by about 1931 in Central Asia, all steam locomotives were changed to burning oil (mazout) instead of coal, because oil was available more easily from Krasnovodsk. Even military and civilian bread ovens were converted to burn "mazout" instead of coal from 1930 on. I do not know, of course, what is used at present [1954], as I believe a railroad has been built since World War II from Karaganda, where coal is available, and then on to Mointy [sic] and to Chu. This line was scheduled to be finished in 1949. As a result, perhaps coal is again being burned since this latter railway line was constructed especially for the purpose of transporting coal. Also in 1939, coal was found 70 kms east of Tashkent in Angren and a railway line was built to that area in 1941-42. However, I do not know if the coal is good enough to burn in locomotives. The Fergana Valley also had some poor quality coal. In earlier times the railways in Central Asia used coal from the Donbas or from Kuznetsk.

12. There were two large railway repair shops in Central Asia which provided capital repairs for locomotives and railway freight and passenger cars. Each was referred to as a "parovozo-vagoni remontni zavod" (locomotive-railway car repair plant). One was in Tashkent and the other was in Kizyl-Arvat. There were also several "vagoni remontnii masterskii" (railway car repair shops), which provided capital repairs for railway freight cars only. There were eight or nine such shops in such locations as Krasnovodsk, Ashkhabad, Chardzhou, Kagan, Andizhan, Kokand, and Kazalinsk.

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